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ABSTRACT

A Australian study examined the effect of prior educational, professional, and teaching experiences on technical and further education teachers' approaches to their formal studies for educational diplomas. Thirty teachers (24 males and 6 females) enrolled in diploma courses in education completed the survey instrument; 15 were graduates of degree courses in their teaching subject, and 15 were teachers who had completed vocational diplomas and other nondegree qualifications in their subject areas. Eighteen of the respondents were given follow-up interviews. The teachers whose previous studies had been in technical and vocational areas did not find their prior experience nearly as helpful as the teachers with university and college degrees. Student-related problems were generally perceived as being more serious than teaching practice and self-related problems. The wide range of teaching problems mentioned during the interviews suggests that a problem-based approach would be useful in training teachers in classroom management techniques. It was found that, as students, the teachers need to acquire some diagnostic and management skills for their own academic work and some strategies for remedial work with students. (Nine figures are provided; appendixes include the survey instrument and list of 24 teaching problems covered in the follow-up interviews.) (MN)

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TAFE NATIONAL CENTRE FOR RESEARCH AND DEVELOPMENT

INFLUENCES OF ACADEMIC AND TEACHING EXPERIENCE ON TAFE TEACHERS' EDUCATIONAL STUDIES

AGNES DODDS
JEANETTE LAWRENCE
HARRIETT PEARS

ADELAIDE 1987

TAFE NATIONAL CENTRE FOR
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SEED RESEARCH REPORT

INFLUENCES OF ACADEMIC AND TEACHING EXPERIENCE ON TAFE TEACHERS' EDUCATIONAL STUDIES

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CONTENTS

The aim of this study was to investigate the effect of prior educational, professional and teaching experiences on TAFE teachers' approaches to their formal studies for education diplomas. Our investigation focused on three aspects of teachers' perceptions of the usefulness of their prior formal and informal learning, their strategies for utilizing previous experience and the effect of perceptions and strategies on current learning and teaching. We were particular interested in the ways that experienced TAFE teachers saw themselves adapting the wealth of their academic, vocational and classroom experience to the new academic experience of formal studies in education.

BACKGROUND

Previous research on planning, organization and self-evaluation of adult learning has revealed the strong influence of prior experiences on intellectual work. Amongst vocational teachers in the technical education sector there are people who have practised in industry and other vocational fields. They have a great deal of knowledge and skill to impart to their students. Many of them have tricks of the teaching trade that have worked in the past. The aim of formal educational studies is not only to provide experienced practitioners with qualifications, but to give them the opportunity to hone their skills and to reflect on their instructional practice.

When education students are experienced and professional adults, it is not always easy for them to move into the student role. For the TAFE teacher there is the added factor of being a teacher on one day and a student the next. This change of role could be regarded as a problem, needing adjustment and special motivation. Alternatively, the opportunity for TAFE teachers to take up formal educational studies after years in the field can be viewed as a unique chance for them and their education instructors to make full use of the student's rich background.

Because TAFE teachers cover a wide range of subjects and vocations, their background studies also are likely to vary more than in traditional education courses. Instructors of diploma courses are aware of the range of backgrounds in their adult classes. Some teachers have strong academic preparation for writing reports and researching new topics, whereas others have concentrated on the practical in their own areas of study. Obviously, teaching students with a diversity of backgrounds makes particular demands on the instructor to be able to diagnose student needs and abilities. In order to match instruction to student, and to facilitate the most productive use of the training scheme, it is important to understand teachers' perceptions and felt needs as they study educational principles and practice in a formal way. For example, in a current study of students' note-taking abilities, classes with industrial backgrounds were most appreciative of training in taking notes from textbooks (Lawrence, Chalmers, Samson, Radloff & Pears, in preparation; Samson & Radloff, 1987). Nevertheless, students from more academically traditional backgrounds also showed a willingness to modify their own note-taking systems to incorporate the new scheme. They would adapt the new input to suit their needs. A degree of self-awareness and personal direction of new learning and its application to teaching is to be expected and encouraged if educational studies are to be productive additions to the TAFE teacher's experience.

From a broader perspective, there is little empirical information about how experienced students can relate their prior training and professional practice to current learning. Yet this type of base-line data would be most useful for students' management of their own learning. Instructors and course designers can benefit from data on student's natural learning patterns in programming relevant and useful input, especially for busy part-time students. Prior research includes two studies on adults' and adolescents' planning and self-regulation of everyday errand tasks (Volet, Lawrence & Dodds, 1985), and studies of adult students' organization of their university studies (Dodds and Lawrence, 1983; Lawrence, Volet, Dodds and McGaw, 1985).

Volet & Lawrence (1987a; 1987b) found a strong relation between unversity students' goals for their study and their subsequent study styles and examination performance. Students' goals and study activities were investigated over several weeks when they were working on educational psychology and statistics courses. Especially in the statistics course, students' goals were better predictors of their study activities and examination performance than their background knowledge in mathematics. Not only that, but goals were different for mature age and school leaving students. Several mature students lacked the mathematical background that was considered appropriate by course designers. Yet because they wanted to pass the course and master the new learning, their goals guided working plans. With self-determined courses of action, and the use of suitable strategies, they made up for their lack of background. In contrast, a mathematically well-prepared school leaver did not perform according to his formal potential, but gained the minimal pass that suited his own goals.

Given that professional adults may have varied goals for their studies, it can be expected that they also will hold different perceptions in retrospect of the relevance and value of their previous training. In two studies, we have asked first year university students about their preparation for the kind of assignment, researching and interpreting activities demanded of them at university (Volet, Dodds & Lawrence, 1985). Dodds, Lawrence & Guiton (1984) found that adult external students believed their academic preparation was most useful in their present organization of their work and use of their study time. They felt most deficient in their preparation for research and coping with the university system. In a follow-up study with students in the first course of an arts degree, those with technical and vocational education saw their previous training as less useful than fellow students with some university or college education, for seven areas of current studies, ranging from assignment writing and research to coping with the institution. Technically and vocationally trained students felt most unprepared in the new activities of research and assignment writing. The areas of study presented to TAFE teachers in this study are the same as those used with these two groups of beginning university students. We were interested in whether initial differences in education would make some students feel at a disadantage when they undertook educational studies which usually require a great deal of writing and independent library research.

Adult students' own perceptions, intentions are important background dimensions of their ability to take advantage of new formal input to their teaching knowledge and practice. In particular our prior studies suggested that mature students who are experienced in their own discipline and in the practice of teaching would bring their own ideas and plans to teacher training classes. If their perceptions and their assessments

of their own preparedness were identified, then that information could become a useful guide for the teachers of these teachers. Our study was specifically aimed at providing information about the usefulness of prior academic and teaching experience for TAFE "teachers become education students".

METHOD

Participants

Participants in the study were 30 TAFE teachers (24 males, 6 females)who were enrolled in diploma courses in education at Curtin University. Fifteen teachers were graduates of degree courses in their teaching subject, and 15 were teachers who had completed vocational diplomas and other non-degree qualifications in their subject areas. This division in terms of degree or diploma based background is the basis for making two types of education diploma available to TAFE teachers at Curtin University. Graduates take a Diploma of Education course and non-graduates do a Diploma of Teaching. The mean age of the graduates was 38.4 years, and of the non-graduates, 39.8. Although participants were students in their education diploma courses, they were active teachers, so they are referred to as teachers throughout the report. Their teachers at the University will be called instructors to avoid confusion.

The 30 students represented a wide range of years of teaching (mean, 5.25 years) and vocation, as shown in Table 1, indicating that the program must cater for a diverse range of experience and vocational focus.

Instruments and Procedure

The students were asked their perceptions about their educational studies and their teaching in relation to their prior experiences. The research was conducted in two phases involving a questionnaire for the whole 30, and follow-up individual interviews with a subsample of 18 volunteers who were available for half hour interview sessions.

First, all students in class for the two diploma courses on the same day were asked to fill out the questionnaire in a class session, and to indicate their willingness and availability to be seen individually in the following weeks. The questionnaire had been piloted with education students at a College of Advanced Education and with experienced teachers. It was designed to elicit students' perceptions of the relation of different aspects of their studying and teaching background to current studies and professional teaching. Students were asked to identify how they thought their experiences helped them in their current study activities, areas of difficulty in those studies, and the usefulness of teaching experience for their current teaching. A copy of the questionnaire is attached as Appendix A.

Table 1: Description of Vocation[illegible] of Participating Graduates & Non-Graduates

	Graduates	Non-Graduates
	Engineering	Engineering
	Humanities	Hairdressing
	Computing	Marine Navigation
	Horticulture	Marketing
	Social Work	Cabinet making
	Accountancy	Fitting
	Surveying	Printing
Mean Years of Teaching Experience:	4.7	5.6
Range:	1-20 years	2-15 years

In following weeks, individual interviews were conducted at students' TAFE Institute or Murdoch University in order to collect further information on the problems the students encountered in their teaching practice, especially in terms of the relative frequency and difficulty of teaching problems. The interview schedule also had been piloted with very experienced teachers and education students.

Each teacher was given a set of cards identifying 23 common problems that pilot subjects had specified as re-occurring for teachers. Then he or she was presented with a zero-to-four scale of numbers laid out on a pin board, and asked to rate each problem on three dimensions by laying the cards on the scale numbers. This procedure allowed the students to handle the cards and move around and change ratings if they wished. First problems were rated for familiarity, then for their relative difficulty, and finally for their relative ease of solution. Next, teachers were asked to discuss the teaching situation that he or she identifed as causing the most difficulty, and to indicate any solutions they had used or could propose. The interviews were taped and transcribed for coding. The 23 problems are listed as Appendix B.

FINDINGS

Our findings are reported first as teachers' questionniaire elicited perceptions of the relations of (1) prior academic experience to their current study, and (2) prior teaching experience to current teaching. Following those findings we describe the interviewed subsample's identification of familiar and troublesome teaching problems and their solutions.

(1) Study Related Experience

Teachers gave their opinions about the relevance and helpfulness of their study experience and the major difficulties they found in their present student role. Responses related to prior study experience were analysed for two groups of 15 graduates and 15 who had experienced diploma and other courses, called "non-graduates". There were no significant gender differences ($p > .05$) and so results are reported for the two groups.

(a) Relevance. The teachers rated the relevance of their prior experience on a five point scale from completely irrelevant to very relevant (0-to-4). Graduates perceived their prior experience as more relevant to their current studies than non-graduates. The graduates' mean relevance score of 2.73 was significantly greater than the non-graduates' score of 1.40, ($t(28) = 2.67$, $p < .01$). The groups' mean relevance scores are illustrated in Figure 1. With a score of 4 signifying that educational experience was very relevant to current studies, it can be seen that graduates saw themselves as well prepared for their new educational studies, but this was not the case so for those without experience of bachelor level courses.

Figure 1 About Here

(b) Helpfulness of Experience. The teachers then rated the usefulness of their prior study experience on a zero to four scale for seven separate study activities. Their previous study was seen as significantly more helpful by graduates when all seven study activities were taken as a whole. The mean of graduates' seven mean scores (3.39) was greater than non-graduates' (1.80) , $t(12) = 11.94$, $p < .001$. In addition graduates rated their experience as more helpful than non-graduates for each of the seven individual activities. Table 2 shows the seven activities and mean scores of each group. Graduates said they gained help from the past in all areas, with their mean score above 3 for all activities. In contrast, non-graduates only rated one area (organizing their work) over 2 (2.20).

Comparisons of means revealed that graduates gave significantly higher ratings than non-graduates to: (i) writing assignments with a mean of 3.60 greater than mean = 1.53 for non-graduates, $t(28) = 5.53$, $p < .001$, (ii) coping with the system (3.60>1.93), $t(28) = 3.79$, $p < .001$, and (iii) researching material (3.53> 1.33), $t(28) = 5.38$, $p < .001$, (iv) understanding new material (3.47>1.93), $t(28) = 3.77$, $p < .001$, (v) gaining new information (3.20>1.87), $t(28) = 2.85$, $p < .01$, (vi) using study time, (3.20>1.80), $t(28) = 3.26$, $p < .01$, (vii) organizing work (3.13>2.20), $t(28) = 2.25$, $p < .05$.

Table 2: Graduate and Non-Graduate Perceptions of the Helpfulness of Prior Study Experience

	GROUP			
	Graduate		Non-Graduate	
	Mean	s.d.	Mean	s.d
STUDY ACTIVITY				
Writing assignments	3.60	0.63	1.53	1.30***
Coping with the system	3.60	0.74	1.93	1.53***
Researching material	3.53	0.92	1.33	1.29***
Understanding new material	3.47	0.64	1.93	1.44***
Gaining new information	3.20	1.01	1.87	1.50**
Using study time	3.20	0.68	1.80	1.52**
Organizing your work	3.13	0.83	2.20	1.37*

*p<.05, p<.01** p<.001***

Following their ratings, the teachers then identified the single factor from their previous study experience of most help to them now. The two groups did not differ in the percentages that endorsed seven prior study activities as most helpful. Thirty-three percent of graduates and 23% of non-graduates found previous experience of having to organise their work most helpful in present study. While 20% of graduates said their prior experience of understanding new material and writing assignments was most helpful, only 15% and 8% of non-graduates agreed for these two factors. One graduate and two non-graduates mentioned attitude and motivation as the most useful carry-over from prior study. Two non-graduates stated that their experience was no help at all in their current study. No teacher found help from experiences in researching material. Percentages of graduates and non-graduates identifying the most helpful aspect of their prior study are shown in Figure 2.

Figure 2 About Here

(c) Present Study Problems. Teachers were asked to nominate the most difficult aspect of their current studies. Responses were classified in four categories by two coders.

Thirty-six percent of graduates reported difficulty with the time constraints involved in their academic and other responsibilities, and 36% with statistics and computing components of their course. Motivational problems were nominated by 21%, and an academic-related difficulty of "completing long assignments" was specified by one graduate (7%).

Fifty-four percent of non-graduates reported time constraints as the most difficult aspect of their current studies, and 38% nominated academic related difficulties of writing assignments and dealing with the information in the course. Only one non-graduate (7%) reported major problems with motivation, and this group made no mention of any specific course content that would contrast with the graduates' problems with computing. One graduate and two non-graduates said they had no particular difficulties. Percentages of the two groups nominating four most difficult aspects of their current study are shown in Figure 3.

Figure 3 About Here

In summary, the graduate group found previous study experience helpful in their current studies on all the study activities specified. Their past academic experience was most helpful in organising their work, understanding new material and in writing assignments. Lack of time and the new computing and statistics courses worried them most. The non-graduate group did not find their previous study experience particularly helpful in any areas of their study. Like graduates, they found experience most helpful in organising their work, although it was not rated as highly as any of the seven activities by the graduates. Most non-graduates' major difficulty was time, but more mentioned academically related difficulties than graduates.

(2) Teaching Related Experience

Teachers were asked their opinions about the helpfulness of their teaching experience in relation to current practice. They rated the usefulness of their teaching experience to 19 teaching on a zero (no help) to four (lots of help) scale. The items covered a wide ations connected with teaching within a TAFE institution. Eleven items were d to teaching, four were student related and four were related to respondents in ng role. For this analysis the teachers were divided into three groups on the basis

of their years of teaching experience, since that was the most relevant experiential factor to current teaching. The least experienced group of10 had taught for up to two years, another 11 had between three and nine years experience, and the seven most experienced had taught for ten years or more. Responses of two teachers were excluded from the analysis because of missing data.

Years of teaching made a difference in perceptions of the helpfulness of previous teaching experience in student-related areas overall, but not in diect teaching activities or areas related to themselves in the role, when the items within each area were taken as a whole. The three experience groups' ratings of the usefulness of their prior teaching experience were different in relation to two specific areas of dealing with students, one specific area related to teaching activities, but none of the specific areas related to themselves in their teaching role.

(a) Student Areas. There was an overall difference in the mean scores of the three experience groups in their ratings of four items about student related matters taken as a whole, $F(2,25) = 4.64$, $p < .05$, although pairs of experience group means were not significantly different.

There was a significant difference in mean ratings of the item involving having to fail students, $F(2,25) = 7.22$, $p < .01$. The least experienced group had the lowest mean helpfulness rating (0.88) and this was significantly lower than the other groups' combined, $F(1,22) = 9.93$, $p < .01$. However the mean of those with 3 to 9 years experience (2.55) was not significantly different from the most experienced group's mean (2.17), $p > .05$. All contrasts of pairs of means were orthogonal planned Helmert Contrasts. Group means are illustrated in Figure 4.

Figure 4 About Here

There was a significant difference in means In the area of "dealing with students with poor background in the subject", $F(2,24) = 6.17$, $p < .01$. The least experienced group's mean helpfulness rating (1.7) was significantly lower than the other groups' combined, $F(1,24) = 9.4$ $p < .01$. In addition the mean cf teachers with 3 to 9 years experience (2.55) was significantly lower than the most experienced group's mean (3.33), $F(1,24) = 5.86$, $p > .01$. Group means are illustrated in Figure 5.

Figure 5 About Here

(b) Teaching Areas. Groups differed in their ratings of only one area of teaching activities, "Designing assessment", $F(1,22) = 6.83$, $p > .01$. The least experienced group's mean helpfulness rating (1.56) was significantly lower than the other groups' combined, $F(1,22) = 10.08$, $p < .01$. However the mean of those with 3 to 9 years experience (2.8) was not significantly different from the most experienced group's mean (2.83), $p > .05$. Group means are illustrated in Figure 6. There were no significant differences in the groups' ratings of areas related to themselves in their teaching role.

Figure 6 About Here

In summary, years of teaching made a difference within three specific areas of teachers' current teaching practice. Teachers with two years or less experience found their background failed to assist them when they had to fail students. Experienced teachers also could place greater reliance on their experience when dealing with students who lacked background knowledge in their subjects, and when they had to develop assessment procedures. In 16 other areas, experience did not produce different ratings.

Overall, TAFE teachers with experience of bachelor degree programs thought they could rely on their grounding more than those who came from diploma programs, and those with more years of professional practice felt they were better equipped to deal with problems in evaluating their students and coping with students'poor background knowledge.

(3) Identifying and Solving Teaching Problems.

Interviews with 18 of the teachers provided a further window on students' perceptions by asking them to identify familiar, easy and troublesome teaching problems, and to describe their preferred solutions. For analyses of the individual data, the subsample was treated as a single group, since there were so few areas related to teaching where experience made a difference, and because of the smaller numbers involved in the second phase of the study.

(a) Familiar and Easy Problems. The problem rated as most familiar by a third of the teachers (6) was stated as "Giving theoretical concepts practical relevance", followed by "Planning the workshop component of a course" (4), and "Students who have genuine problems understanding material" (3).

The problem rated as easiest to solve for 5 teachers involved being "Unsure of your knowledge of course content". "Giving theoretical concepts practical relevance" and "Keeping control in the workshop" each were easiest for four teachers.

(b) Difficult Problems to Solve. For the analysis of teachers' identifications of their most troublesome problems and their preferred solutions the 23 problems were classified as

involving student, teaching and self related difficulties. Teachers specified the most difficult problem and discussed how they would set about dealing with it. The 18 TAFE teachers demonstrated their concern about a wide range of problems and individual needs in their practice, showing diversity in their worries, but several genral approaches in their solutions. Twelve (71%) said that student knowledge or motivation gave them their greatest problems. Practical management of teaching functions were the worst problems for two; one involving keeping records and another coping with an unsuitable syllabus. Three teachers saw their greatest problems in terms of themselves in the teaching role; two to do with institutional demands or authorities' misunderstandings of the teaching role, and the other his own lack of subject knowledge. One teacher said he had no substantial problems. The diverse problems that teachers identified as most difficult are shown in Table 3 within the three categories of area.

Table 3: Problems Indentified as Most Difficult by 17 TAFE Teachers

	n
Student Related	
Student tries hard and wants to succeed but does not meet criteria	3
Students has poor background knowledge	3
An able student has poor motivation and is disinterested	2
Student says, " Why learn this stuff. It has nothing to do with being a professional	1
Students has genuine problems understanding the material	1
Organizing class activities to meet individual needs	1
Student wants to succeed and knows the material, but has problems with writing assignments and exams	1
Teaching Practice	
Keeping track of student progress	1
The syllabus set is unsuitable	1
Self Related	
Supervisors who don't understand teachers' problems	1
You are unsure of your knowledge of the course content	1
Institution makes demands that eat into teaching time	1

When asked to offer a possible solution for their most difficult problem, the TAFE teachers demonstrated that they had a ready set of concepts with which to frame individual problems, and the possible routes to solution that were available to them within TAFE institutions. They first identified the nature of the problem and where it fell in their area of activity, for example as problems related to student knowledge or authorities' interference in the teaching activity. For some the diagnostic phase of their solution steps involved identifying two

possible causes of the difficulty. Then they either said how they would go about solving the problem, or in fewer cases, expressed their inability to overcome the difficulty.

The qualitative analysis of the difficulty data involved reducing the interview material to its propositional structure, then constructing flow diagrams of teachers' identifications of problems and routes to possible solution. General models were abstracted for student management and self related areas. Abstracted prob n identification and solutions routes for each of the three types of difficulty (student, teaching, self) showed how individual instances of those three types of problems were basically similar in the ways that students described their problems and the efforts they would use to solve them. Solutions either involved knowledge (their students' or their own), or they involved using the environment of the TAFE Institution to deal with difficulties, for example by referring a student to the counselling service, or by using the union, students or the community to solve institutional problem outside the teacher's control.

Student Related Problems. The 12 TAFE teachers who specified student problems as their most diffficult, identified two problem areas, and difficulties involving students' lack of background knowledge, motivation or study skills. A model which abstracts their identification of the nature of problems and routes to solution is shown in Figure 7.

Figure 7 About Here

Problems were identified as either involving knowledge deficiencies or personal, affective factors. Once problems could be specified as knowledge or person related, solution routes could be described as either involving academic work or personal counselling.

Failures to solve the problem were related to the inability to conceive a route to solution rather than to failure to identify the nature of the difficulty. One teacher's problem was unsolvable, she said, because it was related to her own response to interactions with students with motivation problems.

> I tend to find that it throws me, I start to lose my confidence, I start to perhaps become more authoritarian rather than to be more democratic and trying to include them. I think as a beginning teacher that's one of the problems that I find most difficult. (T7)

One teacher described how student immaturity eliminated his preferred work or counselling options as ways of dealing with students whose background knowledge was poor.

> There is the student who has the problem of understanding the material because their background knowledge is insufficient and they are too immature. That clouds everything they do, and that is really out of my control. (T4)

Another teacher's dilemma involved recognising that the knowledge deficiency of his students went back beyond their TAFE experience, and therefore could not be simply remedied with extra work.

> Yes, I found this virtually insoluble, bacause what I'm doing is criticising the high school system. We are not geared to give background knowledge outside of our teaching area. (T9)

This teacher intended to provide some of the missing background knowledge by taking time to supply information that came from outside his teaching area (for example, basic information on English Literature to graphics students who were supposed to design book jackets). However he perceived this stop gap methood to be of little use, in view of students' "limited knowledge of the outside world" and "general sort of apathy".

Nine teachers could specify solutions for their problems related to student knowledge or motivation. They entertained the possibility of solving the problem by giving extra work or teaching, or by suggesting counselling on the spot or through the counselling service. As they mentioned these branching solution routes, four teachers demonstrated preferences for the work route, four for tackling the personal, affective dimension of student related problems.

Extra work solution routes mostly put the onus for obtaining additional knowledge and skill on the student, or less commonly, the teacher took it upon himself or herself. Extra student work encompassed remedial work and practice outside class, either individually through remedial classes, or by dropping back to a lower level class. One teacher (T4) said he would give students extra help by "going over" the material on a one-to-one basis, or if the problem seemed widespread he would devote class time to revision.

Another teacher (T5) who identified his problem as students' lack of examination strategies, said that he would teach them how to pass exams. This was the only instance in which strategic skills were specified as students' needs, and no one actually discussed the means that he or she would use to induce the knowledge needed by a student.

The dominant theme for solutions to problems involving lack of knowledge and skill was "extra work" rather than deep diagnosis of a student's inability to cope with the information that had already been offered in the class or workshop. Even with this heavy emphasis on knowledge, only one teacher said he would use a content based approach to deal with students' lack of interest. In his subject area of marketing, he said he would present unmotivated students with two examples of marketing policies, one involving the planning he was emphasising in class, the other a serendipitous approach. The juxtaposition would force

students to compare the two, and therefore push them to appreciate the relevance of his teaching.

Teaching Problems. Two teachers said their most difficult problems occurred in their management of teaching functions; keeping track of student progress and an institutional problem involving an unsuitable syllabus designed by others. The model of teaching management problems is shown in Figure 8.

Figure 8 About Here

Causes of management problems were specified as external, involving authorities or facilities within the institution; the absence of a computerized system for recording student progress, and someone else's curriculum decisions. In the first case, the teacher turned to a management solution that was possible because of her high rank in the institution. She would use another government department's computer until such facilities were available locally. The teacher with the syllabus problem recognized that that his difficulty was inherent to the hierarchical structure of TAFE. If it was a localized decision, then the solution could be within his power, but if the syllabus decision had been made at a higher level, then the solution would be outside his sphere of influence, and therefore insoluble.

Self Related Problems. Three teachers identified their most difficult problem in terms of their own knowledge or institutional demands. A model of self-related problems and routes to solution is shown in Figure 9.

Figure 9 About Here

The teacher who was unsure of his subject knowledge had been teaching at TAFE for over three years, and could see three possible ways of dealing with the problem. He intended to tackle the problem by study and consultation, although as for others in the quantitative data, he saw limited time as a barrier to the easy attainment of a solution.

> What I have in mind, is to take in units that would be relevant to my subject area, and thereby kill two birds with the one stone. That's one avenue. The second would be to try and prepare lecture notes, and to do that I would have to consult my peers. (T13)

When two teachers' problems involved superiors within the system, they could not envisage solutions that they themselves could effect. For one, the status of the particular

superior provided two ways of reacting, without necessarily ensuring success.

> If its a problem with an academic person, then I would seek academic language to justify the other particular point of view I have. If it's a straight administrative problem within a hierarchical structure, one has no way of handling personally the upper echelons of the hierarchy. (T14)

When the administration was involved, T14 thought that calling in outside help in the form of the union, students or even the community might be useful, but he was not hopeful of turning around the hierarchy himself. Another teacher who was worried about directives from above also lacked confidence of being able to change things, "You don't solve it. You just try and fit it in" (T15).

In summary, while the problems specified by the teachers were diverse, their ways of conceptualising and tackling their problems were fairly similar. All seventeen teachers were able to identify the area of concern for each problem rated as most difficult. Solution routes were specified for all cases where the problem was identified as being within the teacher's own sphere of influence. However, if the problem concerned an organisational or hierarchical difficulty it was seen as outside the power of the individual to influence a solution.

For classroom difficulties, intervention with extra knowledge or affective support were considered appropriate, and most times possible. When dealing with the institution, the hierarchical organisation of authority and individualized power either provided aidi for overcoming difficulties, or caused insurmountable problems. When knowledge or skill was needed, there was a remarkable paucity of strategies for remedying the situation. Solutions were couched in general terms of extra or remedial work for the problem student, often outside that teacher's classroom. Pressure of time and curriculum demands were cited as the main reasons for inability to tackle the problem in the classroom.

CONCLUSIONS AND RECOMMENDATIONS

In general, our findings point to the significance of the nature and duration of prior experience. These teachers whose previous studies had been in technical and vocational areas did not find their experience nearly as helpful as the teachers with university and college degrees, agreeing with our data on university students (Volet, Dodds & Lawrence, 1985). University students are not well prepared for writing and researching until they have university or college experience. But how to get that experience in a diploma course? The answer may lie in adding some specific learning strategies to course content.

That these teachers did not identify specific strategies for supplementing their own students' knowledge may be another indirect indicator of a deficit in strategic educational practice. Brown, Bransford, Ferrara and Campione (1983), for example, discuss the importance of showing students how to manage their knowledge aquisition in addition to giving

them access to knowledge. Without labouring the point, we would regard instruction in the management of learning as a prime educational intervention strategy well suited to learning by experienced, practising teachers.

In the case of practising teachers there is the added advantage of equipping them with models for attacking their own classroom problems. Time-management problems always plague people studying part-time, and connections that can be made between their own studies and their classroom needs will motivate busy people to engage with the material.

The teachers' identification of a wide range of teaching problems suggests that some difficulties may be related to the material specific to discipline areas, while others, like motivating students, and dealing with the hierarchy are perennial for teachers at any educational institution. In a large and diversified system like TAFE, teachers' management skills must extend beyond their actual teaching function. These teachers bring a wealth of experience to the diploma course, and have some tried avenues for tackling difficulties that some if not all of their peers must face.

It may be possible that a problem-based approach (Boud, 1985) would be useful for drawing on the wisdom available amongst TAFE teachers, in formal classes or in-service discussions. The data suggest, though, that one-to-one solutions will not be as effective as developing some abstracted principles that can be applied in the particular, for example, identifying whether a knowledge-based or counselling approach is most appropriate. As students the teachers needed to acquire some diagnostic and management skills for their own academic work (especially the non-graduates) and some strategies for remedial work with their students. This does not imply that they did not have repertoires of possible solutions for their difficult problems. They did, and they were able to diagnose needs as knowledge, affective or institutional problems. Their responses showed the diversity of the problems that could beset them, and probably the usefulness of discussing those problems within a climate of educational and learning theory.

The German psychologist Duncker (1926) advocated that productive problem solving starts with penetrating to the core of the problem. He argued that this diagnostic phase required suspending ready made solutions and preconceptions, and looking at problems with fresh perspectives. Formal education studies that come after two to 20 years in the classroom or workshop ought to influence people to take new perspectives. The development of new techniques for designing assessment procedures for example, could be valuable in providing some teachers with direct procedures and others with opportunities for trying out new tricks in a well-known trade. All this points to the importance of perceived relevance and the opportunity for reflection. Perhaps the marketing teacher's juxtaposition of systems with good and poor marketing strategies provides an appropriate analogy of the way that educational studies can enrich and be folded into experienced teachers' repertoires.

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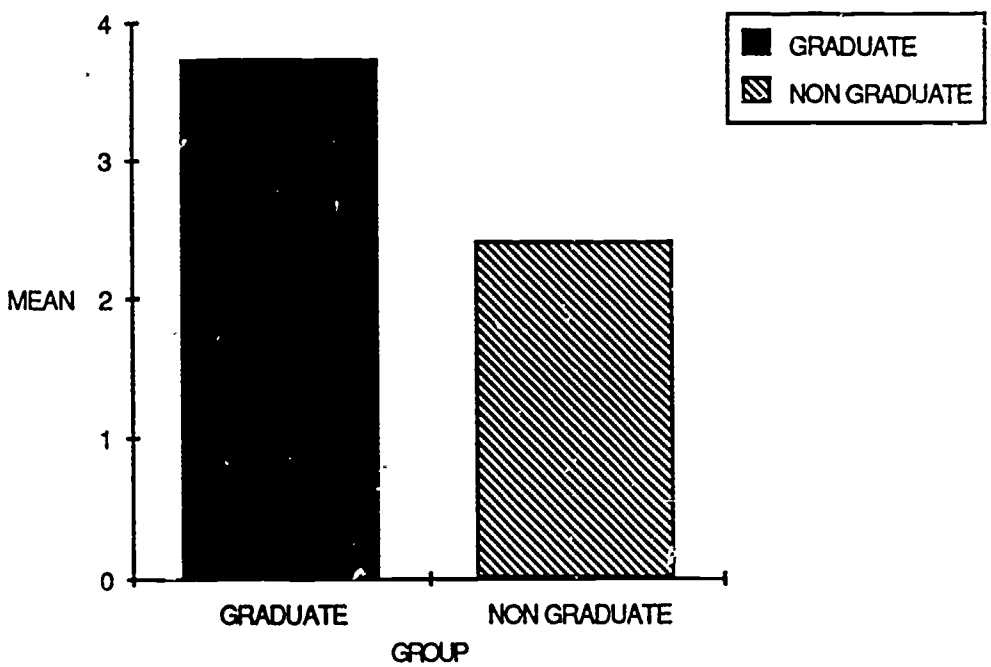

Figure 1: Perceptions of Relevance of Prior Study

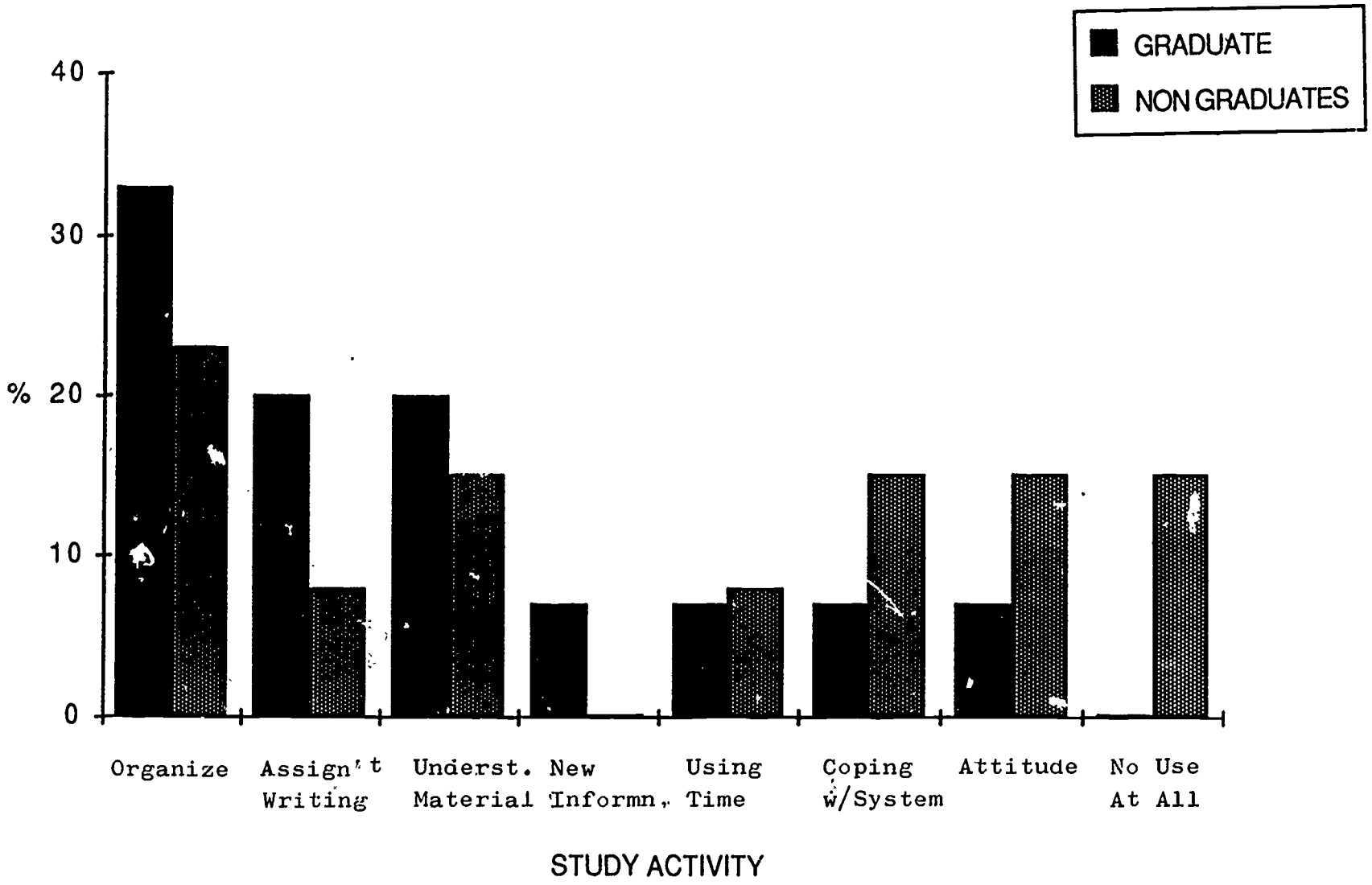

Figure 2: Percentages of Graduates and Non-Graduates Identifying the Area of their Study where Experience was Most Helpful

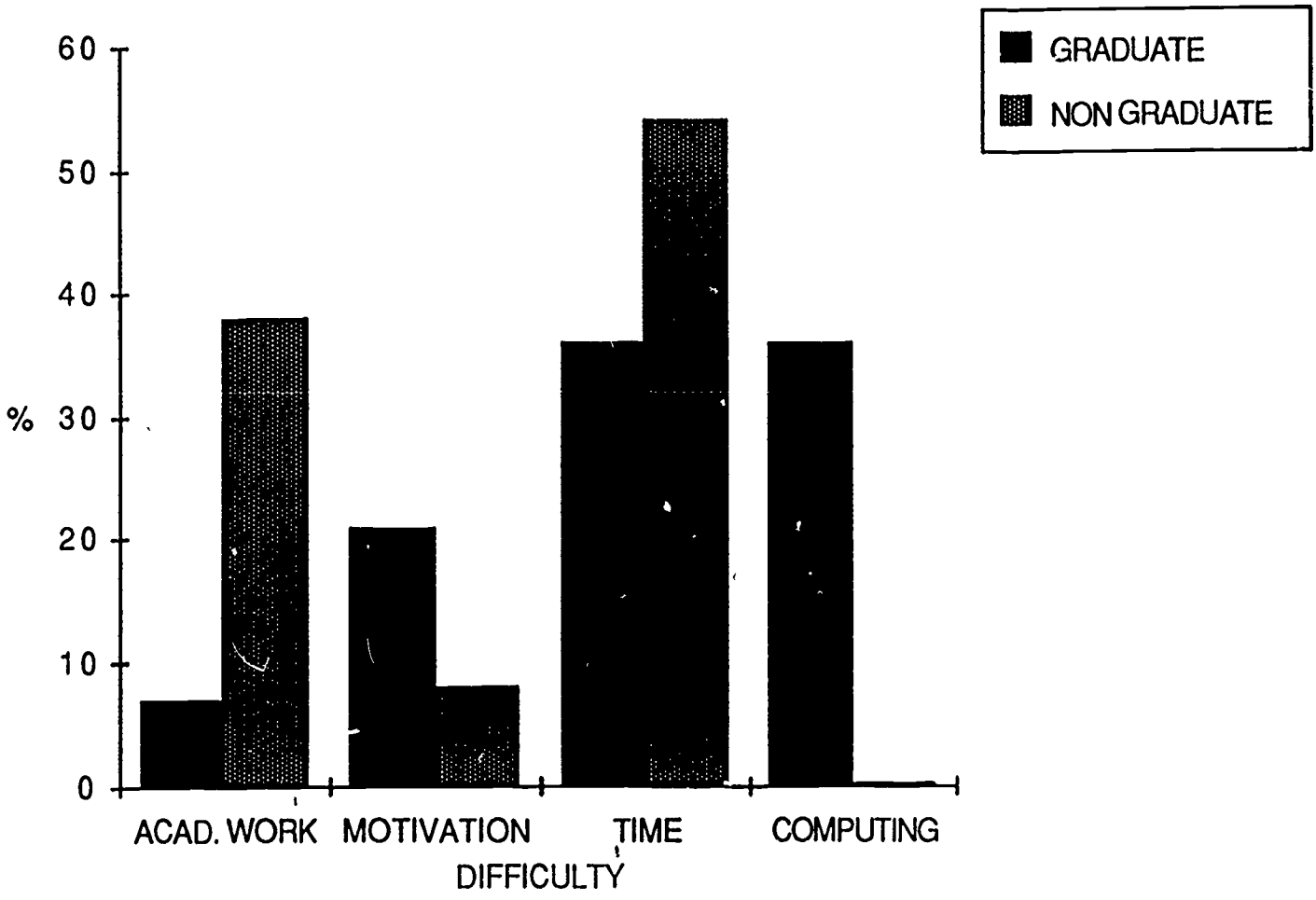

Figure 3 : Most Difficult Apects of Present Study

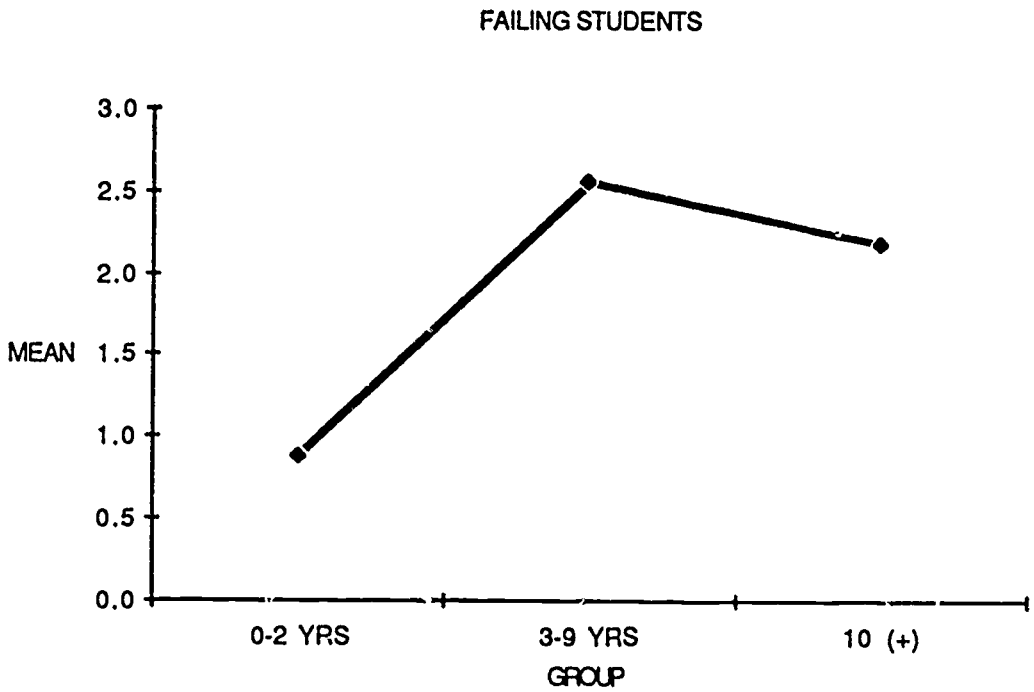

Figure 4: Three Teaching Experience Groups' Mean Ratings of the Helpfulness of Teaching Experience when Having to Fail Students.

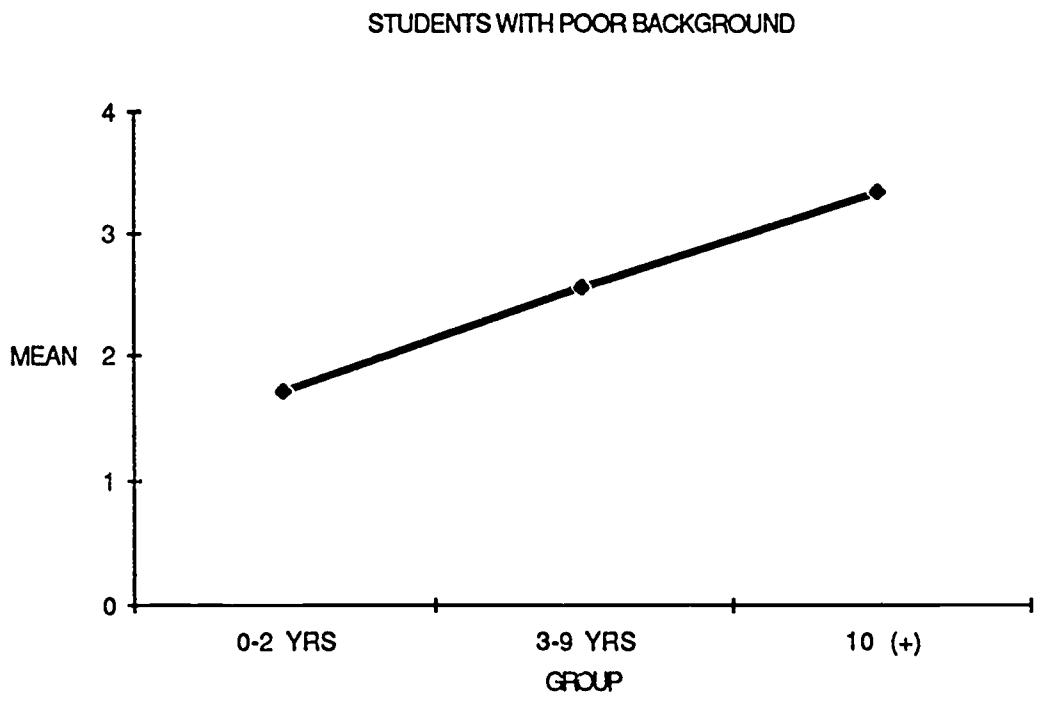

Figure 5: Three Teaching Experience Groups' Mean Ratings of the Helpfulness of Teaching Experience when Dealing with Students with Poor Subject Background.

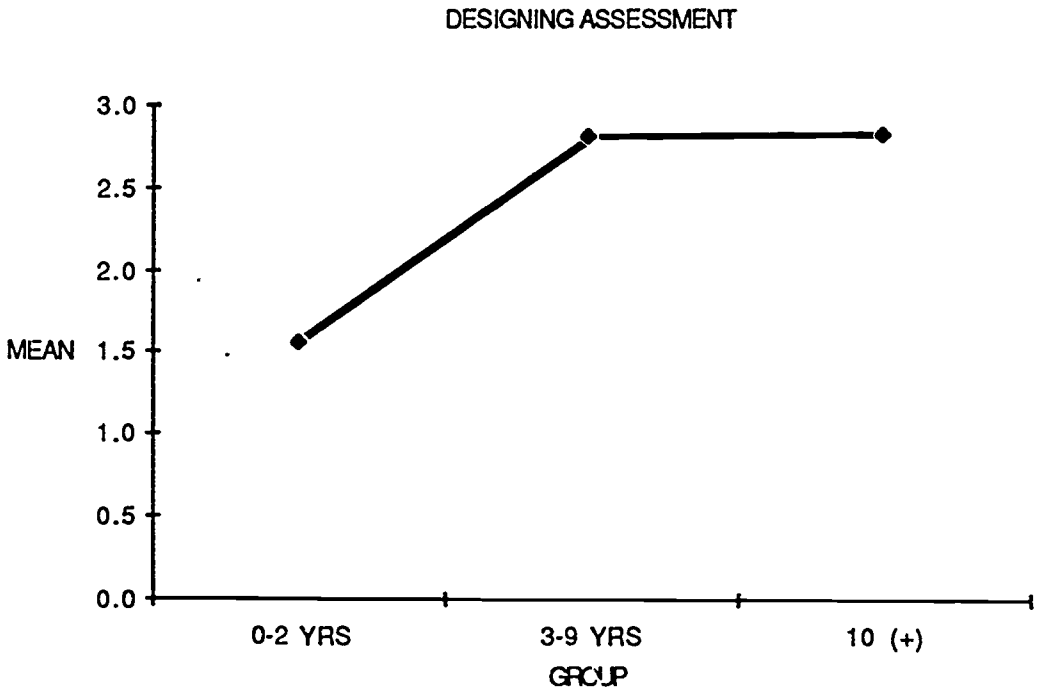

Figure 6: Three Teaching Experience Groups' Mean Ratings of the Helpfulness of Teaching Experience when Designing Assessment.

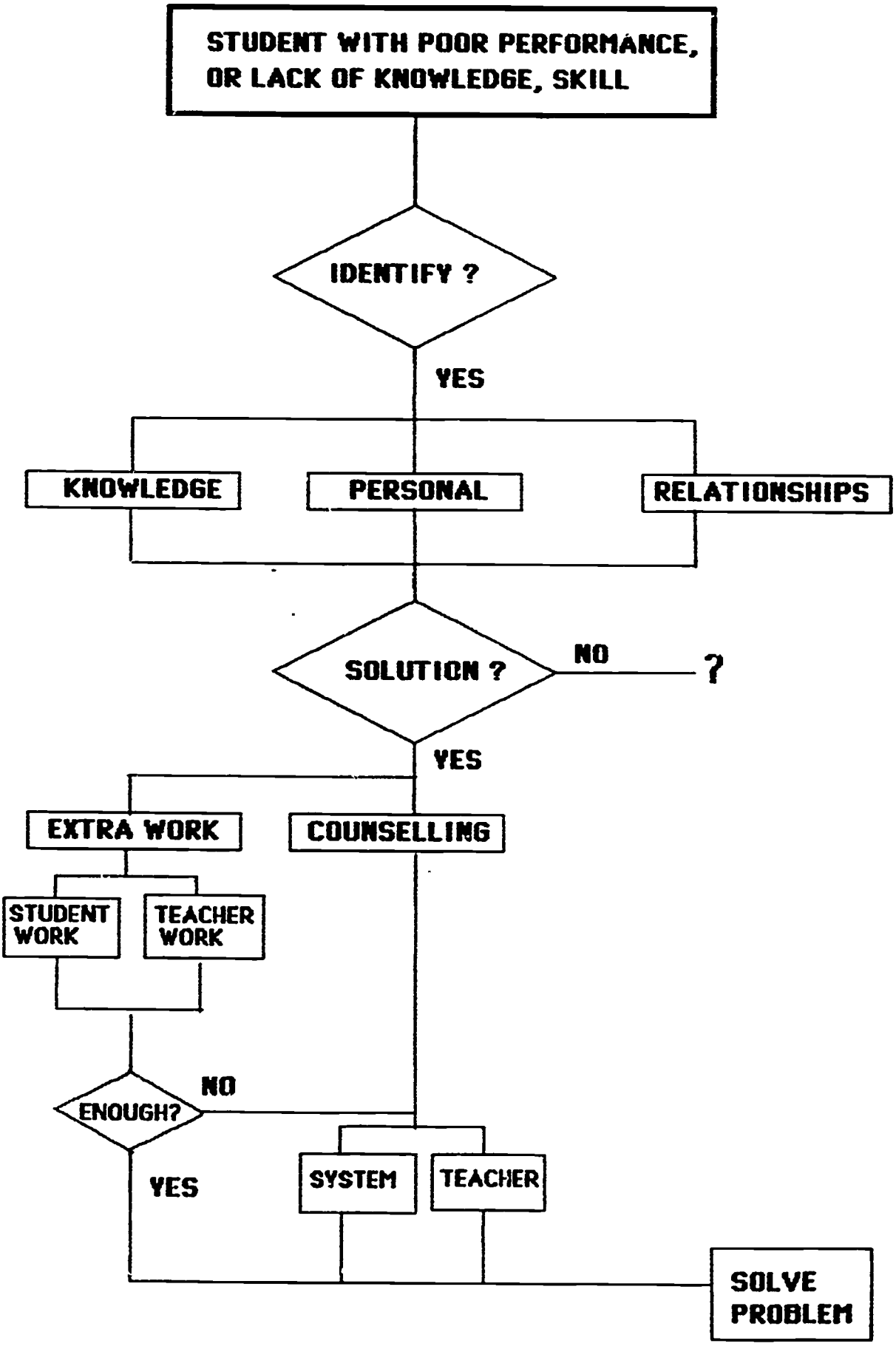

FIGURE 7: STUDENT PROBLEMS

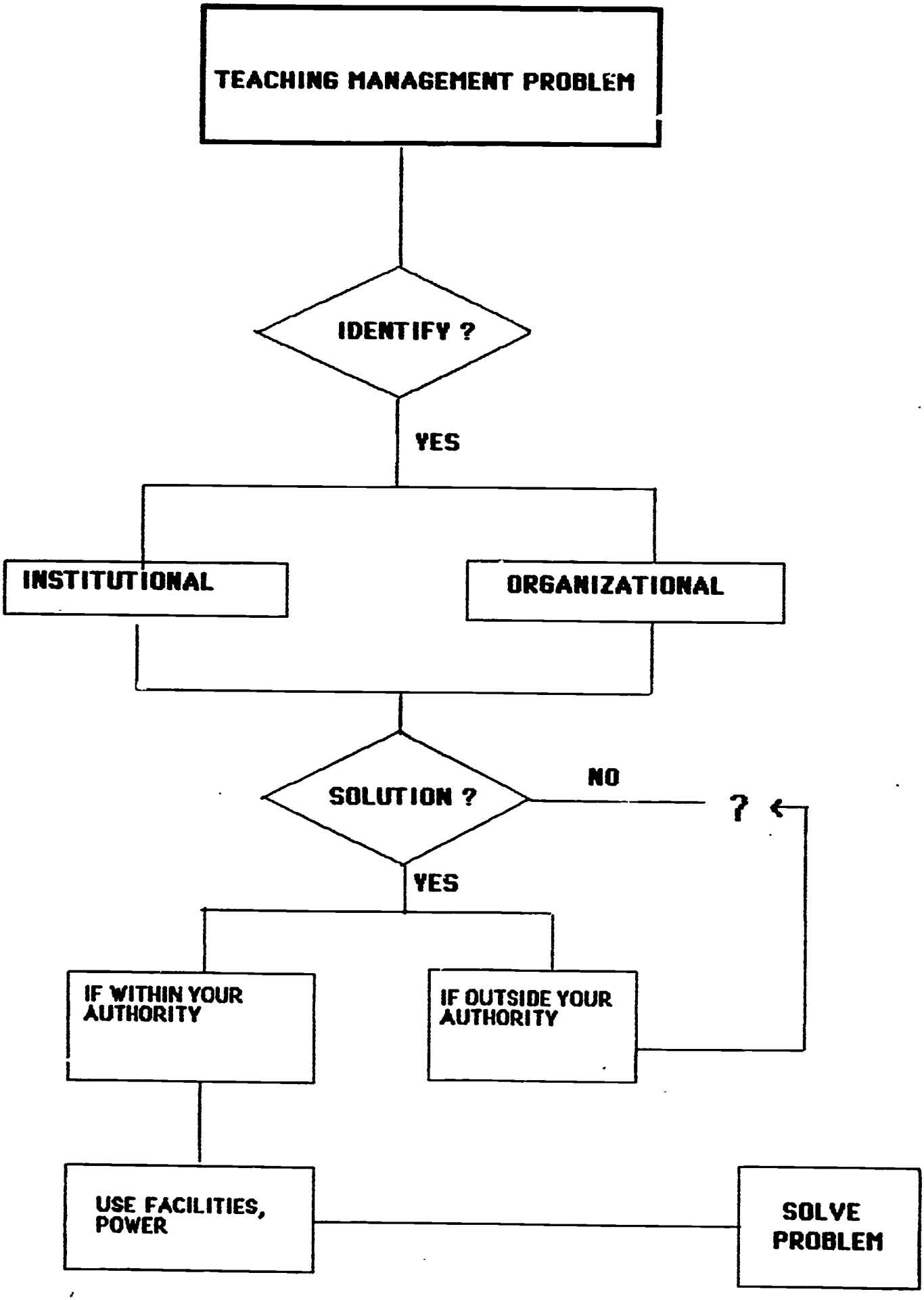

FIGURE 8: PROBLEMS RELATED TO TEACHING

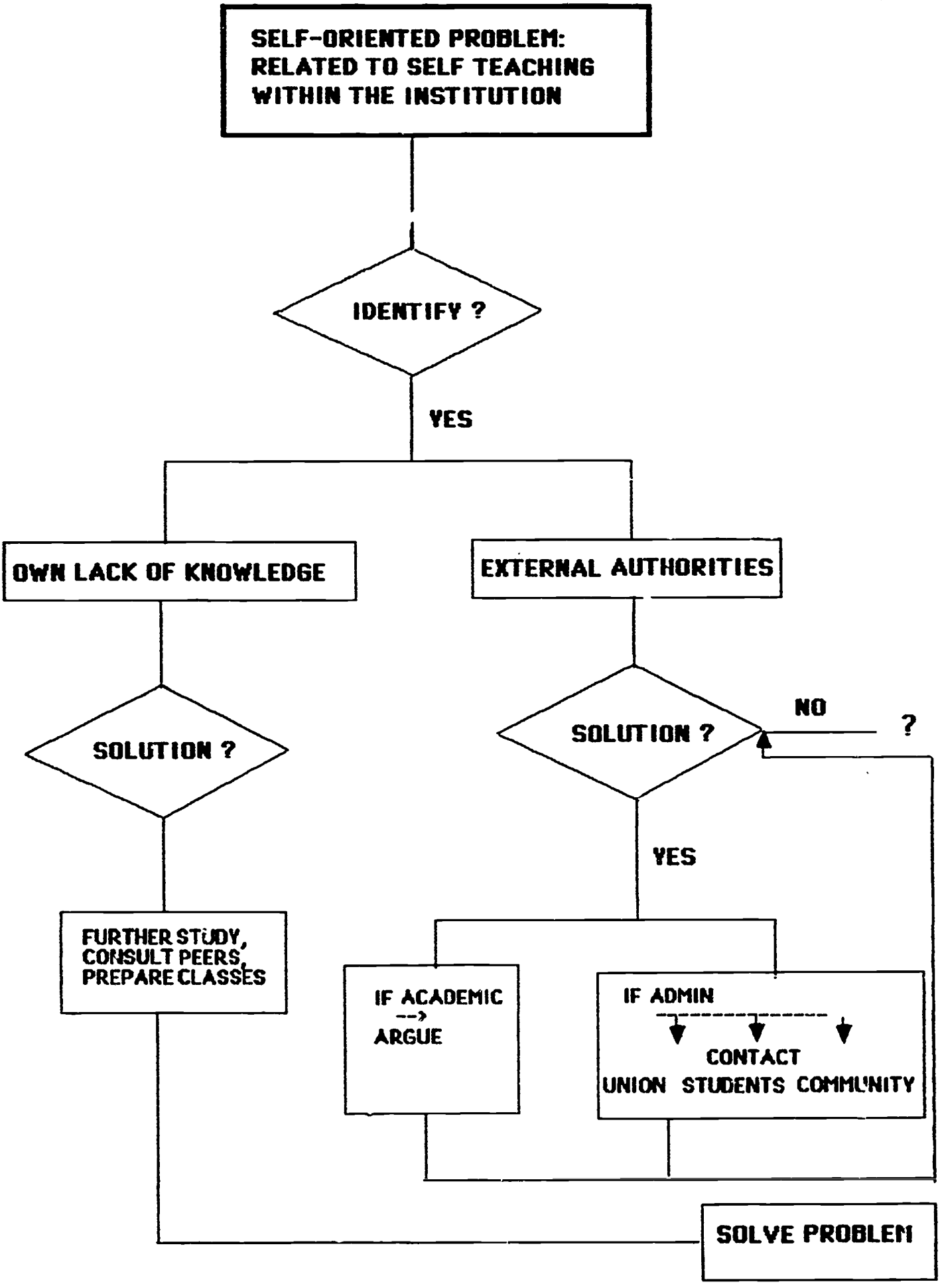

FIGURE 9: SELF RELATED PROBLEMS

Murdoch University

Murdoch, Western Australia, 6150. Telephone: (09) 332 2211, Telex: AA 92711

School of Education

Thank you for agreeing to take part in this project.

This questionnaire is designed as an initial way for us to understand something of the approaches that professional teachers bring to their own and their students' learning. We would like to follow up this beginning by asking you to talk with us about your teaching and study experience at your convenience of course.

All information is for research purposes only, and has nothing to do with course grades or TAFE records. We are independent educational researchers working with TAFE approval and funding. Information will be treated as strictly confidential and no person will be identified by name.

It is only when people like yourself cooperate with us, that we can build up a body of important information about practising and student teachers' perceptions of their work.

Should you have any queries about the research, please do not hesitate to contact us at Murdoch University, on 332-2492. We would be happy to discuss our study with you, as well as to report our findings to anyone who is interested.

Thank you,

Agnes Dodds, Jeanette Lawrence

I am willing to participate in the research project on teachers' perceptions. I understand that all information will be treated as confidential.

Signed (Optional).....

Date.....

Would you mind giving us the following information

GENDER: MALE / FEMALE

AGE IN YEARS: .....

Thank you. Now would you please turn over and answer all questions

First we have a few questions about your professional background and previous teaching experience. Would you please write in your answers to Qns 1 , 2 & 3

1. Your trade or profession

   please identify (.....)

   Qualifications

   _____

2. How many years have you taught? .....years
3. What are your major teaching subject(s)

   _____ _____

   _____

Now could we ask some questions about your previous experiences and how they relate to your study and teaching

4. Please specify your most recent previous study (i.e. previous to this course)

   Where..... What course.....

   Approximately when .....

5. How relevant was that study to your current educational studies? (circle one)

   very relevant - relevant - somewhat relevant - irrelevant - completely irrelevant

6. How much do you think your previous study experience has helped in each of the following aspects of your current study at WAIT? (*Please rate each of these aspects on a zero-to-four scale)*

	No help 0	1	2	3	lots of help 4
gaining new information	___	___	___	___	___
using study time	___	___	___	___	___
organising your work	___	___	___	___	___
writing assignments	___	___	___	___	___
researching material	___	___	___	___	___
understanding new material	___	___	___	___	___
coping with the system	___	___	___	___	___

7. What factor in your previous study experience is most useful for your present study ?

   (from above or other)

   (_____)

   Why is that the most useful?

   _____

   _____

8. What is the most difficult aspect of your present studies? Why is that the most difficult?

   _____

   _____

Thank you, please turn over and answer all questions

Now we would like to focus on your teaching

9. How much do you think your previous teaching experience has helped in each of the following aspects of your current year's teaching (or most recent year's)? (*Please rate each of these aspects on a zero-to-four scale)*

	No help 0	1	2	3	lots of help 4
Teaching students with learning problems					
Explaining difficult concepts					
Relating theories to practice					
Motivating students					
Using an unsuitable syllabus					
Designing assessment procedures					
Lack of preparation time					
Authoritarian superiors					
Having to fail students					
Students with poor background in your area					
Understanding principles of learning					
Applying principles of learning					
Controlling a class					
Your lack of confidence					
Students' lack of confidence					
Diagnosis students' mistakes					
Interpreting students' behaviours					
Organising class activities					
Meeting institutional demands on you					

Finally, would you be willing to talk with us in a half hour's interview, at your convenience? If you are willing to be contacted so we can explain our interests, please give you name and phone number and we will contact you within the next few weeks.

I am willing to be contacted again, without obligation to proceed

Name..... Phone .....

APPENDIX B.

The set syllabus for your course is unsuitable.

A student who tries hard and wants to succeed, but just does not meet the criteria for passing the course.

A student who wants to succeed in your course and knows the material has a genuine problem with writing in exams or assignments.

You have a disruptive class of students which does not get down to learning the material.

Students with poor background knowledge.

Finding suitable ways to assess students.

You are unsure of your knowledge of the course content.

You are unsure of your ability to teach the course content.

Identifying a students's persistent error.

Finding out the best way to get a difficult concept across to students.

Insufficient time to prepare a new topic.

The institution makes demands that eat into your teaching time.

You know the theories about learning, but they don't apply to your class.

Students who have genuine problems in understanding the material.

Superiors who don't understand teachers' problems.

Students who lack confidence in their own abilities.

Working out why a student keeps making the same mistake.

Keeping track of student progress.

Giving theoretical concepts practical relevance.

Organizing class activities to meet individual needs.

Planning workshop components of a course.

Keeping control in the workshop.

An able student in your class has poor motivation and is disinterested in your subject.

A student says, "We don't see why we have to learn all this stuff. It has nothing to do with being a ....." (professional in your field).